

Analysis of Three Coding Schemes: Can They Capture Nursing Care Plan Concepts?

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The purpose of this study was to determine the extent to which three major coding systems could capture the concepts used by nurses in the typical nursing care plan. Based on the results of a study conducted by the Codes Subcommittee of the CPRI Codes and Structure Work Group, the following coding schemes were studied: UMLS and SNOMED International. The NANDA Taxonomy was also included, as it is the major nursing coding system.

The CPRI study examined multidisciplinary progress notes. SNOMED International, followed by UMLS, was clearly the most comprehensive coding scheme from the schemes that were evaluated. However, most of nursing's documentation of the care process occurs in other types of formats, specifically the nursing care plan and flow sheets. This study collected discharge care plan summaries from patients: newborn, adult surgery and medicine, pediatric surgery, and adult oncology. The care plans were parsed into 372 different concepts.

The team used the same scoring methodology used by the CPRI research team: 0=no match, 1=conceptual match, and 2=exact match. The team met to review the parsed list to review the terms and whether the parsing was accurate. Each coded concept was reviewed by two researchers and the team reviewed all scoring decisions. Browsers developed for UMLS and SNOMED were used to look up the codes. NANDA was a manual look-up due to its brevity.

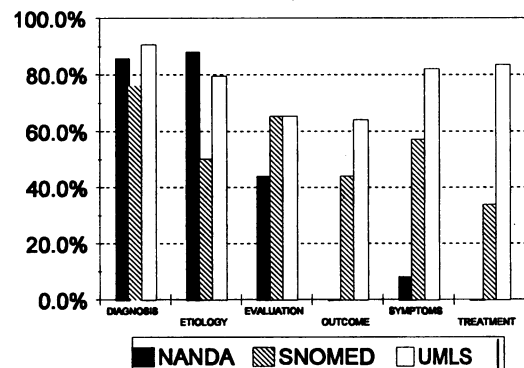
The average overall scores for nursing concepts were UMLS, 1.38, SNOMED, 0.85, and NANDA, 0.37. The percent of concepts coded was also calculated: UMLS 79%, SNOMED 55%, and NANDA 18%. Next each component of the care plan was analyzed: diagnosis, etiology, symptoms, outcome, treatment, and evaluation. The tables show the coding scores and percentages for each of the three systems.

UMLS does code nursing care plan with more granularity than SNOMED. UMLS incorporated the Iowa Nursing Intervention Classification (NIC) which is where UMLS outperformed SNOMED. The second area of increased coding ability occurred with etiologies. Many of the etiologies were of a

psychosocial nature which are in UMLS but not SNOMED. NANDA continued to perform well in coding nursing diagnoses. UMLS coded more diagnoses due to the fact that some diagnoses were not listed in NANDA.

Lest this study be misunderstood, SNOMED was developed to capture medical concepts and is now moving into the domain of capturing patient-focused concepts. SNOMED has included an early list of NANDA diagnoses and may be including NIC. If these avenues are pursued, SNOMED may code nursing concepts in a more comprehensive manner and begin to match its ability to successfully code multidisciplinary data.

Coded Nursing Care Plan



Nursing Care Plan Coding Scores

